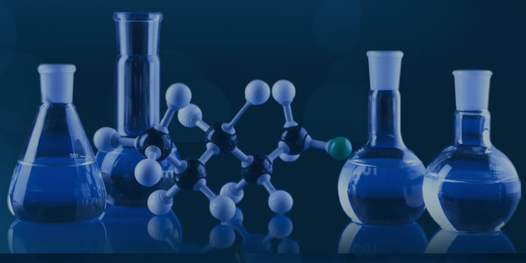

Hypertension

Hypertension

Hypertension affects millions of people, worldwide. A tissue mineral analysis may be used to assist in the evaluation and correction of many causes of hypertension. Oftentimes, identifying the underlying causes can yield far better results. What can one look for on a hair analysis to evaluate hypertension?

Fast Oxidation

In general, fast oxidizers are prone to hypertension due to constriction of the arteries. They are in an alarm stage of stress. This is associated with relatively *low tissue calcium and magnesium levels.* These elements help relax the arterial walls.

Fast oxidation is associated with excessive adrenal and thyroid activity which tends to raise blood pressure.

Fast oxidizers with high sodium levels are prone to excess fluid retention and excessive blood volume. This is a form of electrolyte stress that can raise blood pressure.

Fast oxidizers often have a low tissue zinc level. Zinc is needed to keep the arterial walls flexible and for the regeneration and healing of arterial and other tissues. Low zinc is associated with brittleness and hardening of the arteries.

Low zinc is also associated with inflammation of the arteries. This causes arterial walls to become rough or weakened. The body then coats the arteries with plaque to prevent aneurysms or further damage to the arteries. The value of aspirin in preventing heart attacks may be its anti-inflammatory action.

Fast oxidizers often have a low tissue copper level. Copper is required for the cross-linking of collagen protein that is essential for arterial integrity. Low copper is associated with atherosclerosis. In addition to copper, fast oxidizers often benefit from supplements of L-taurine, a calming nutrient which is very beneficial for the heart.

Fast oxidizers are also often 'type A' personalities. While this is not always the case, personality and emotions may play an important role in their hypertension.

When fast oxidation is the primary cause, correction needs to begin by undoing this chronic metabolic pattern using appropriate diet, supplements and lifestyle.

Slow Oxidation

Slow oxidizers also suffer from hypertension. Hardening of the arteries may be due to a tendency for calcium to precipitate in the arterial walls, kidneys and elsewhere. Sodium, potassium and magnesium are required to maintain calcium in a soluble form in the blood. Slow oxidizers often have *low tissue sodium and potassium levels and biounavailable magnesium.*

A very high tissue level of calcium is a stronger indicator of possible calcium loss or precipitation into the tissues. This may contribute to hardening of the arteries.

Many slow oxidizers are deficient in zinc and have biounavailable tissue copper. As stated above, zinc and copper are essential nutrients for arterial integrity.

Slow oxidizers may have other imbalances leading to arterial problems. For example, often they have impaired cell permeability. This can lead to cellular nutrient deficiencies, which may result in arterial dysfunction. Slow oxidizers also often accumulate toxic metals due to their impaired ability to remove these metals.

Toxic Metals

Cadmium can replace zinc in the arterial walls and causes the arteries to become brittle. The body will then coat the arteries to prevent an aneurysm.

Although ***copper*** is an essential nutrient, excessive copper lowers vitamin C in the body. Vitamin C is essential for connective tissue integrity.

Mercury, nickel, cadmium and other toxic metals accumulate in the kidneys. They can damage the delicate tubules and other structures, resulting in an increase in blood pressure.

Lead replaces vital calcium in enzyme binding sites.

The Sodium/Potassium Ratio

On a hair analysis, inflammation is often indicated by a high sodium/potassium ratio. This mineral ratio is also associated with another hypertension pattern in some people - excessive blood volume due to sodium retention.

Too much table salt, emotions such as anger, a deficiency of anti-inflammatory fatty acids, zinc deficiency or toxic metals may all contribute to the pattern. High quality sea salt often does not contribute to hypertension, due to its content of magnesium and other minerals. A very low sodium/potassium ratio is associated with protein catabolism, or tissue breakdown. This is another possible cause of hypertension and other conditions such as heart problems.

The calcium/magnesium ratio may also yield clues about hypertension. A high ratio may indicate a tendency for calcium precipitation. This is because magnesium is required to keep calcium in solution. An imbalanced calcium/magnesium ratio is also associated with excess carbohydrates in the diet, which can lead to zinc deficiency and blood sugar intolerance.

Other Causes

Diet can play an important role in hypertension. However, eliminating all fat and salt often is not required for correction, or even desirable. It depends on the cause of the condition.

Adequate vitamin B_6 and folic acid help prevent excessive homocysteine levels associated with cardiovascular disease.

Obesity, which can have many causes, is another important factor in hypertension. A hair analysis may identify some of the causes, including excessive carbohydrates or fat in the diet, sugar and carbohydrate intolerance, excessive toxic metals, thyroid and adrenal imbalances and deficiencies of various trace elements.

Lifestyle is also important for hypertension. Mineral analysis cannot correct a smoking habit or sedentary lifestyle. However, balancing body chemistry can restore one's energy so that one feels like exercising, and has less need for stimulants and other harmful habits.

Many people have a combination of biochemical, dietary and lifestyle factors contributing to their high blood pressure. Symptomatic treatment with prescription drugs or garlic, vitamin B_6 and other remedies have a place. Bypass surgery or chelation therapy can temporarily clear the arteries. However, addressing causes using hair analysis for both evaluation and correction can produce far more permanent and satisfying results.